

MESSRS.**SPECIFICATION FOR APPROVAL****承 認 书**

Product	DYNAMIC SPEAKER	
Part No.	HDK-1508ZA-4W11 (RoHS)	
Customer Approval		
Approved By	Checked By	Made By
王台平 NOV-21-2016	曹丽萍 NOV-21-2016	LILY NOV-21-2016

常 州 华 龙 电 子 有 限 公 司**DRAGONSTATE ELECTRONIC CORPORATION**

中国江苏省常州市新区电子园新四路 36 号

Tel: +86-519-85110078 86-519-85106698, Fax: +86-519-85101081

EDITION:1.1

1. Specification

HDK-1508ZA-4W11 (RoHS)

ITEM		SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 15 mm	
03	Rated Input Power	0.3W	
04	Max. Input Power	0.5W for 1 minute	
05	Impedance	8 ohm $\pm$ 15% at 1500Hz.	
06	Resonance Frequency (Fo)	950Hz $\pm$ 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	93dB (0.5W / 0.1m) $\pm$ 3 dB	at AVE 0.8K~1.5 KHz
08	Frequency Range	Fo – 20KHz	
09	Total Harmonics Distortion	Max 8 % at 1 KHz, 0.3W.	
10	Voice Coil	Diameter 8.3 mm	
11	Magnet	Rare earth permanent (Nd-Fe-B) magnet Φ 7.8*1.0mm	
12	Weight	1.5g $\pm$ 5%g	
13	Appearance	Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.	
14	Operation Test	Must be normal at program source – 0.3W	
15	Buzz, Rattle, etc.	Should not be audible at 1.55V sine Wave between Fo to 20KHz	
16	Polarity	When positive voltage is applied to the terminal marked (+), diaphragm should move to the front.	
17	Terminal Strength	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.	
18	Temperature	Operating temperature: -20°C to +60°C Storage temperature: -30°C to +70°C	

2. Test Condition

2-1 Standard

Temperature : 15 ~ 35℃

Relative humidity : 25% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

Basic

Temperature : 20±3℃

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

2-2. Standard Test Fixture

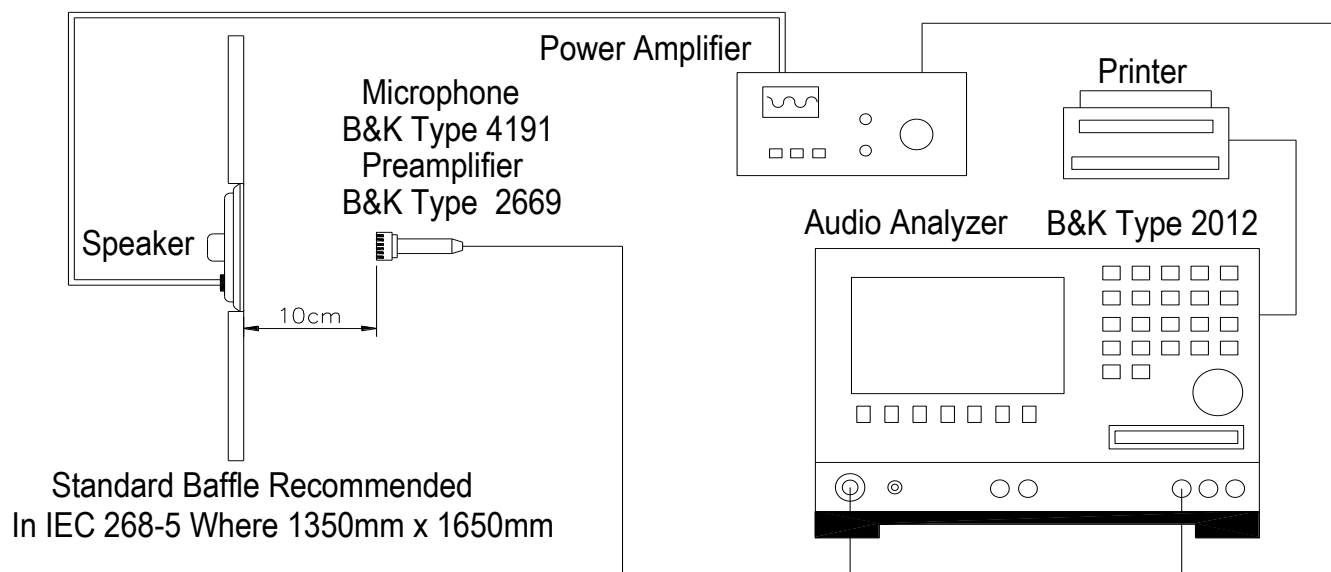
1. Input Power : 0.5W (2.0V)

2. Zero Level : -dB

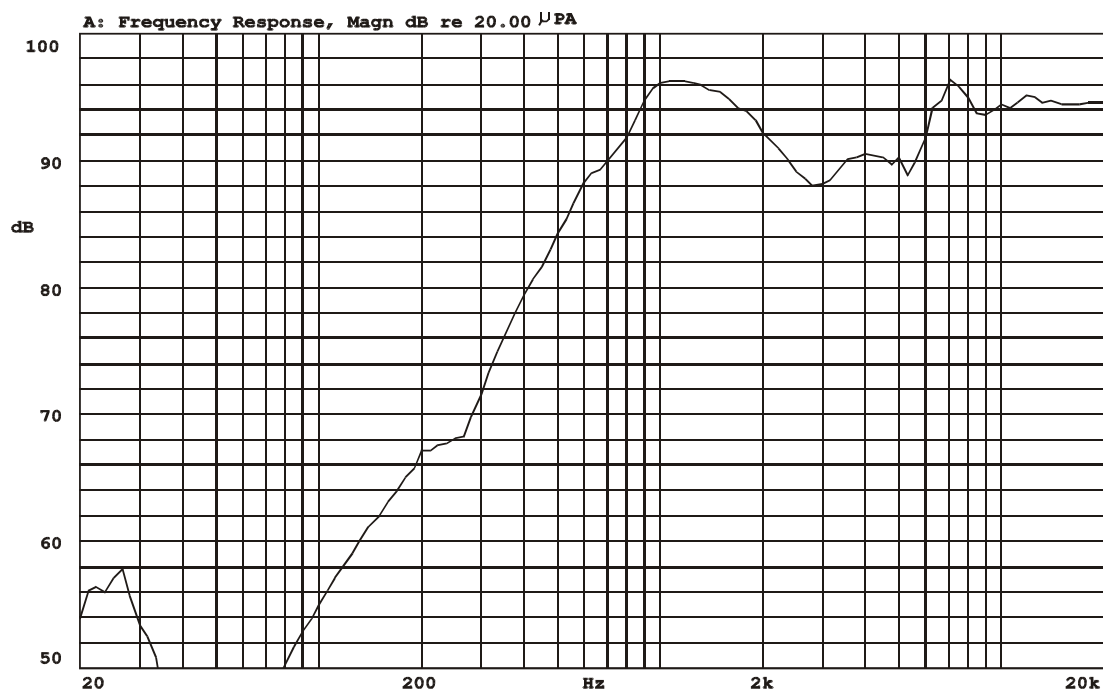
3. Mode : SPEAKER

4. potentiometer Range : 50dB

5. Sweep Time : 0.5sec



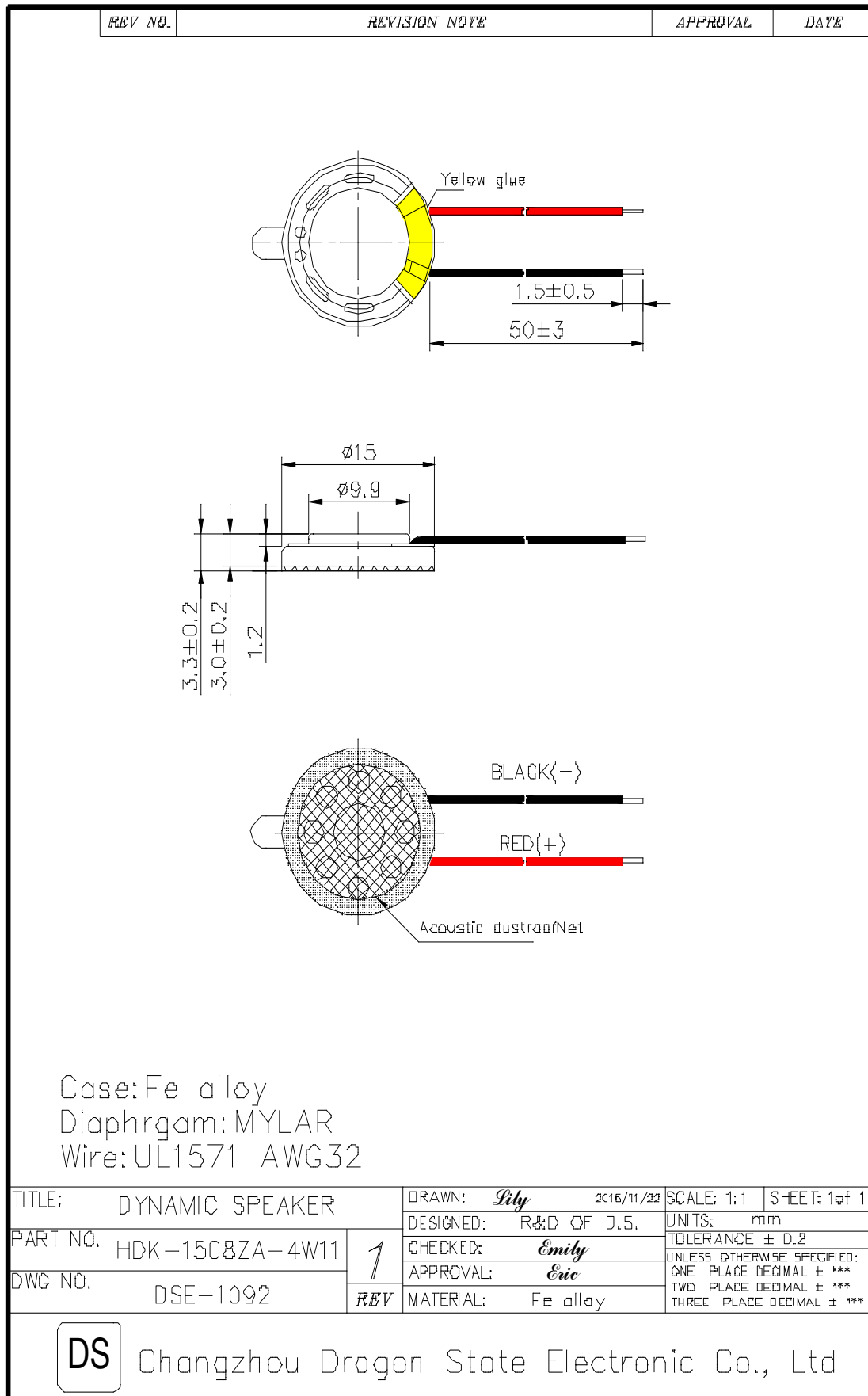
2-3.Frequency Response Curve



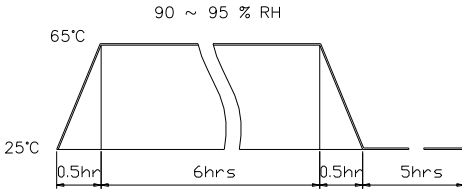
Mode: SSR



3.Dimension



4. Reliability Tests

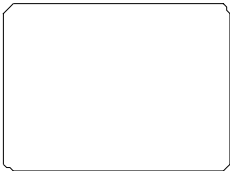
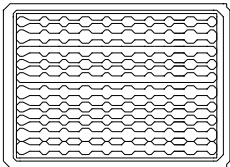
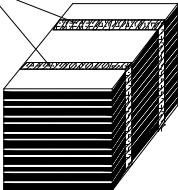
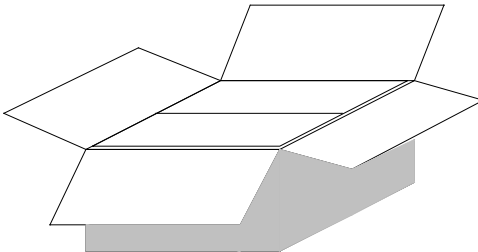
Items.		Specifications
01	High temp. Test	Keep 96 hours at $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
02	Low temp. Test	Keep 96 hours at $-30^{\circ}\text{C}\pm 3^{\circ}\text{C}$ and leave 3 hours in normal temperature and then check
03	Humidity test	Keep 96 hours at $+60^{\circ}\text{C}\pm 3^{\circ}\text{C}$ relative humidity 95% and leave 3 hours in normal temperature and then checked.
04	Temp./Humidity cycle	The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of; 
05	Thermal cycle test.	Low temperature: $-30^{\circ}\text{C}\pm 3^{\circ}\text{C}$, temperature: $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$, cycle: 1 hour/cycle each, and then keep 5 cycles in a room.
06	Vibration	10~200~10Hz sin-wave sweep 15min. 5G(constant) X, Y, Z 3 direction. 2 hours each, total 6 hours.
07	Fix drop test	Fix on jig. Then drop from 152cm height to the concrete floor X, y, z 6 direction. 5 times each, total 30 times.
08	Free drop test	Free drop from 100cm height to the concrete floor X, y, z 6 direction. 1 times each, total 6 times.
09	Rated Power test	Rated Power white noise is applied for 96 hours
10	Max Power test	Max power 1 min on – 2 min off 10 cycles.
11	Terminal strength test	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.

Criterion: After these test , the change of S.P.L shall be within $\pm 3 \text{ dB}$.

Soldering Condition

Recommend using constant branding iron in **15 ~ 30W**, and in temperature range **$350\pm 10^{\circ}\text{C}$** Soldering time not over **3** seconds.

5.Packing

REV NO.	REVISION NOTE	APPROVAL	DATE
 ↓ Cover(225*165*10mm) Material:Pvc  Box(225*165*10mm) 100pcs Material:Pvc OPP TAPE  ↓ Middle(225*165*120mm) 1000pcs(10*100pcs) Material:Pvc  Outer Box(450*310*360mm) 6000pcs(6*1000pcs) Material: Paper			
单位: mm			
TITLE: packing		DRAWN: Lily 2024/02/15 SCALE: 2:1 SHEET: 1 of 1	
PART NO.	1	DESIGNED: R&D DF D.S. UNITS: mm	
DWG NO.		CHECKED: Emily TOLERANCE	
REV		APPROVAL: Eric	
		MATERIAL: ***	20~11 ± 0.3 10~5 ± 0.2 <4 ± 0.1
DS Changzhou Dragon State Electronic Co., Ltd			

